

What is claimed is:

5 1. A common subscriber managing apparatus for use in an Internet Protocol network in which a circuit network for voice and a packet network for data are integrated, the apparatus comprising:

10 first portable user terminating means and satisfying media voice or data standard supported in the network;

15 wireless interfacing means for controlling wireless resources of said user terminating means and wireless traffic, controlling handoff, realigning data from and to the packet network based on a request of said user terminating means to have interfacing condition, providing the realigned data to said user terminating means, and transferring the media to a second user terminating means;

20 call controlling means for controlling a call between the wireless interfacing means and common subscriber managing means;

and

25 common subscriber managing means for providing Security Association setup function for voice processing and commonly managing mobility management, Quality of Service, authentication and authorization management, accounting management and service management functions for said first user terminating means by

using a common subscriber database.

2. The apparatus as recited in claim 1, further comprising
service managing means for performing service management
5 functions.

3. The apparatus as recited in claim 2, wherein said common
subscriber managing means uses a first protocol for mobility
management and service management and a second protocol for
10 Quality of Service management, for authentication and accounting
management as an application layer protocol, and for
constructing protocol stack for implementing common subscriber
management function.

4. The apparatus as recited in claim 3, wherein said common
subscriber managing means uses User Datagram
15 Protocol/Transmission Control Protocol as a transmission layer
protocol.

5. The apparatus as recited in claim 3, wherein said common
20 subscriber managing means uses Internet Protocol as a network
layer protocol.

6. A method for managing commonly subscribers for use in an
25 Internet Protocol network in which a circuit network for voice

and a packet network for data are integrated, the method comprising the steps of:

(a) modeling to provide, by a server, mobility management, Quality of Service, authentication and authorization management, accounting management, and service management for a roaming terminal by using a common subscriber database for all Internet Protocol service; and

(b) setting Security Association function for voice processing by setting up a call between an Internet Protocol visiting network and a home network by the server and commonly managing mobility management, Quality of Service, authentication and authorization management, accounting management, and service management.

7. The method as recited in claim 6, wherein, during step (a), the method uses a first protocol for mobility management and the service management and a second protocol for Quality of Service management, for authentication and accounting management as application layer protocol, and for constructing protocol stack for implementing common subscriber management function.

8. The method as recited in claim 7, wherein, during step (a), the method uses User Datagram Protocol/Transmission Control Protocol as a transmission layer protocol.

9. The method as recited in claim 7, wherein, during step (a), Internet Protocol is used as a network layer protocol.

10. The method as recited in claim 6, wherein step (b) includes:

(i) when an originating Radio Access Network (RAN_0) transmits a call setup request message to an originating Call Control Function (CCF_0), transferring an access request message from the CCF_0 to a visiting common subscriber server (CSS_V);

(ii) searching a Home CSS (CSS_H) by the CSS_V for proxy processing of a corresponding message;

(iii) obtaining by the CSS_V a Temporary Local Directory Number and location information of a terminating subscriber from a terminating Call Control Function (CCF_T) to transfer said Temporary Local Directory Number TLDN and the said location information to said CSS_H;

(iv) transferring a Security Association setup message from said CSS_V and said CSS_H to said RAN_0 and said location information, respectively, and setting said Security Association between said RAN_0 and said location information;

(v) when said CSS_V receives a access response message, transferring a path reset request message for call setup for the said location information from said CCF_0 to said RAN_0; and

(vi) setting up a call between the Internet Protocol visiting network and the home network by transferring the call

setup request message from said RAN_O to said location information RAN_T and transferring a call setup completion message from said location information to said RAN_O.

5 11. The method as recited in claim 6, wherein step (b) includes:

 (i) when an originating Radio Access Network (RAN_O) transmits a call setup request message to an originating Call Control Function (CCF_O), transferring an access request message from said CCF_O to a visiting common subscriber server (CSS_V);

 (ii) searching a Home CSS (CSS_H) by the CSS_V for proxy processing of a corresponding message;

 (iii) obtaining through said CSS_H a Temporary Local Directory Number (TLDN) and location information (RAN_T) of a terminating subscriber from a terminating Call Control Function (CCF_T) to said CCF_T;

 (iv) requesting a service by said CSS_H and obtaining service related profile from a server corresponding to said service by said CSS_H;

20 (v) providing said TLDN, said RAN_T IP address, and service-related information for the terminating subscriber, from said CSS_H to said CSS_V;

 (vi) transferring a Security Association setup message from said CSS_V and said CSS_H to said RAN_O and said RAN_T, respectively, and setting said Security Association between said

RAN_O and said RAN_T;

(vii) when said CSS_V receives an access response message, transferring a path reset request message for call setup for said RAN_T from said CCF_O to said RAN_O; and

5 (viii) setting up a call between the Internet Protocol visiting network and the home network by transferring said call setup request message from said RAN_O to said RAN_T and transferring a call setup completion message from said RAN_T to said RAN_O.

10 12. The method as recited in claim 6, wherein step (b) includes:

(i) when an originating Radio Access Network (RAN_O) transmits a call setup request message to an originating Call Control Function (CCF_O), transferring an access request message from said CCF_O a visiting common subscriber server (CSS_V);

15 (ii) searching a Home common subscriber service (CSS_H) by said CSS_V for proxy processing of a corresponding message;

(iii) using said CSS_H for requesting a service and mobility to a service server;

20 (iv) providing a Temporary Local Directory Number (TLDN) and location information (RAN_T IP address) of a terminating subscriber from said CCS_H to said CCS_V;

(v) transferring a Security Association setup message from
25 said CSS_V and said CSS_H to said RAN_O and said RAN_T,

respectively, and setting said Security Association between said RAN_O and said RAN_T;

(vi) when said CSS_V receives a access response message, transferring a path reset request message for call setup for said RAN_T from said CCF_O to said RAN_O; and

(i) setting up a call between the Internet Protocol visiting network and the home network by transferring the call setup request message from said RAN_O to said RAN_T and transferring a call setup completion message from said RAN_T to said RAN_O.

13. In an Internet Protocol network having a processor, a computer readable recording medium for recording a program for implementing the functions of:

(a) modeling to provide, by a server, mobility management, Quality of Service, authentication and authorization management, accounting management and service management functions for a roaming terminal by using a common subscriber database for Internet Protocol service; and

(b) setting a Security Association function for voice processing by setting up a call between an Internet Protocol visiting network and a home network by the server and commonly managing the mobility management, Quality of Service, authentication and authorization management, accounting management, and service management functions.